

BEFORE THE
Federal Communications Commission

WASHINGTON, D.C. 20554

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FEB 16 1999

**FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY**

In the Matter of)
)
Amendment of the Commission's Rules)
with Regard to the 3650-3700 MHz) ET Docket No. 98-237
Government Transfer Band)

To: The Commission

**COMMENTS
OF
SR TELECOM INC.**

SR TELECOM INC.

Mike Morris
Vice President Corporate Affairs
8150 Transcanada Highway
St. Laurent, Quebec
Canada H4S 1M5

Dan Sonntag
Regional Marketing Director
300 South Pine Island Road
Suite 308
Plantation, FL 33324
(954) 423-4200

By: Wayne V. Black
Peter Saari
Keller and Heckman LLP
1001 G Street, Suite 500 West
Washington, D.C. 20001
(202) 434-4100

Its Attorneys

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List ATTORNEYS

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SUMMARY

SR Telecom strongly supports the allocation of the 3650-3700 MHz band to the fixed service. In formulating rules for this spectrum, the Commission should consider steps that tend to lower equipment and provisioning costs and increase competition.

Use of this spectrum should be limited to fixed wireless access, which will allow the rapid and efficient development of “local loop” or “last mile” service in both rural and urban areas. The Commission should find an additional 50 MHz of spectrum in an appropriate band to pair with the proposed 50 MHz so that existing FDD technology may be used. SR Telecom supports adoption of ITU standards where practicable, however technical equipment standards are not needed and would tend to limit competition in the equipment marketplace. LMDS and WCS auction rules have worked well in the past and would be appropriate for this spectrum, but market areas should be based on a distinction between rural and metropolitan areas given the differences between these markets.

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**COMMENTS
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SR Telecom Inc. ("SR Telecom"), by its attorneys, respectfully submits the following Comments in response to the Notice of Proposed Rule Making ("Notice") of the Federal Communications Commission ("Commission" or "FCC") released December 18, 1998 in the above-captioned matter.^{1/}

I. PRELIMINARY STATEMENT

1. SR Telecom is a Canadian manufacturer of point-to-multipoint ("PMP") radio equipment employed internationally to provide wireless, fixed telephone subscriber service, as well as supervisory control and data acquisition ("SCADA") transport for industrial uses. Many SR Telecom systems are installed throughout North America, including the United States, Canada and Mexico, as well as in Europe and Latin America, Pacific Rim countries, the Middle

^{1/} 64 Fed. Reg. 2462 (Jan. 14, 1999).

East, and Africa. These systems provide telephone service to hundreds of thousands of subscribers who would otherwise go unserved. SR Telecom is currently working closely with local exchange carriers ("LECs") and others in the United States with a view toward utilization of its technology to provide wireless loop services primarily in rural and sparsely populated areas.

2. Fixed wireless technology provides a spectrum-efficient, valuable source of competition for other forms of voice and data telecommunications. PMP time division multiple access ("TDMA") systems utilize proven technology specifically designed and employed for the purpose of providing digital wireless service to subscribers who are frequently located several miles from a telephone central office and who cannot be economically served by copper or fiber optics.

3. The expanded delivery of fixed digital wireless services will provide local exchange access to many new subscribers, some of whom have no service currently, at significantly lower costs than that which can be provided using conventional wire and cable plants. These wireless systems permit the delivery of high quality telephone service with minimum delay. Maintenance is relatively inexpensive and service can be provided rapidly over extended distances. SR Telecom has demonstrated the spectral efficiency of this technology, as compared to point-to-point technology, in various meetings with the Commission over the past several years.

4. SR Telecom supports and applauds the Commission in taking this important step of allocating the 3650-3700 MHz band to the non-Government fixed service. This action will allow development of Fixed Wireless Access (“FWA”) services for both voice telephony and advanced services such as high-speed data, internet and video. By taking this action, the Commission will encourage wider deployment of FWA equipment in the U.S. that is already used in many parts of the world. Although it would be desirable to allocate the entire 3400-3700 MHz band for fixed wireless access, SR Telecom acknowledges that the current military use of the lower portions of the band would create unresolvable interference issues at this time. However, at a minimum, SR Telecom strongly urges the Commission to allocate an additional 50 MHz of spectrum in this band, with a minimum separation of 100 MHz, for paired use with the spectrum at 3650-3700 MHz in order to make the current proposed allocation more useable.

II. COMMENTS

A. The 3650-3700 MHz Band Should Be Allocated for Fixed Wireless Access

5. SR Telecom supports the Commission’s efforts to bring competition to the local exchange market, provide universal service to rural areas and assure that advanced telecommunications capability can be ubiquitously deployed to all Americans. Meeting these goals is particularly challenging in rural areas, where both incumbent local exchange carriers (“ILECs”) and competitive service providers face significantly higher costs to install copper wire or fiber optics, as well as higher costs to maintain such facilities. As a major global provider of

FWA equipment, SR Telecom has participated in previous FCC rule making proceedings in the past, seeking to encourage the adoption of rules that will create a competitive market for FWA equipment. Such equipment has the potential to enable low-cost solutions for providing rural service in areas that tend to be underserved or unserved.

6. To enable the greatest development of FWA, the Commission should limit eligibility in the 3650-3700 MHz band, and any co-paired band, to FWA services providing PMP service. SR Telecom believes that permitting frequency sharing between PMP systems and point-to-point (“PTP”) systems is unworkable and protects neither PMP systems nor PTP systems. Also, SR Telecom believes that the other bands where PTP microwave links may currently be deployed, e.g., at 6 GHz, 11 GHz and 18 GHz, should be restricted to PTP systems in order to allow their unrestricted growth. Allowing PTP service in the 3650-3700 MHz band potentially would raise the cost of providing PMP FWA service, and should be avoided.

7. Similarly, SR Telecom agrees with the Commission’s tentative conclusion that the 3650-3700 MHz band should not be shared with land mobile services, which have proven in the past to be incompatible with fixed services. (Notice at ¶¶ 6-7). The random and unpredictable interference caused by roaming transmitters would limit the usefulness of this spectrum for fixed wireless access. Mobile units have been identified as the source of interference with a fixed service, as was the case with the Basic Exchange Relay Telecommunication Service (“BETRS”) band. Further, there is already sufficient spectrum

dedicated to commercial mobile services including cellular, PCS and SMR. Moreover, even if the proposed allocation of 50 MHz were unencumbered by existing users, it would be insufficient spectrum for competitive local exchange carriers ("CLECs") to provide significant competition to ILECs.

8. In addition to limiting future use of the band, current users of the 3650-3700 MHz band should be eliminated or reduced to the fullest extent possible which will allow for greater development of FWA. SR Telecom agrees with the Commission that the unused Government aeronautical radionavigation, commercial radar allocations, and Government and non-Government radiolocation services should be deleted. (Notice at ¶¶ 2, 15-16). Other than the three grandfathered Government radiolocation sites identified in the Notice, the band should be cleared for FWA service. (Notice at ¶ 7).

9. To accomplish this, the Commission has proposed to freeze FSS applications and grandfather existing FSS. (Notice at ¶ 2). The Commission should go one step further and sunset the grandfathering period after four years, after which time any remaining FSS operations would become secondary. (Notice at ¶ 14). Compensation for relocating grandfathered FSS facilities should not be borne by the nascent FWA service providers who, unlike PCS licensees, may not have sufficient market demand to justify the additional costs associated with such relocations. The principal reason that rural populations are underserved by local exchange services is related to low population densities and high construction costs. A requirement for

FWA service providers to reimburse FSS licensees for relocation would only inhibit the penetration of FWA services to rural users.

10. Other problems the Commission has identified with the band can be easily remedied if certain limits are put in place. Although the Navy has indicated a need for a 50 MHZ guard band for its shipboard radar, the Commission should instead limit use of this radar to areas beyond 50-70 miles from shore. This would provide adequate over-the-horizon protection for both FWA and Navy radar operations and eliminate the need for the 50 MHZ guard band. SR Telecom does not anticipate that U.S. Air Force radar in this band would cause interference with terrestrial FWA given the high angle of transmission of the radar and the low look angle of FWA receivers. Finally, SR Telecom believes that very small aperture satellite transmitters ("VSATs") should not be permitted to operate in adjacent bands because they will necessitate expensive filtering equipment to reduce interference from such transmissions. However, if adjacent channel VSATs are permitted, SR Telecom agrees with the Commission's suggestion that such use should require a minimum of 3.5 meter antenna dish size. (Notice at ¶ 11).

B. Commission Should Allocate Additional Spectrum for Fixed Wireless Access

11. While the Commission's proposal to allocate 50 MHZ of spectrum for FWA and other services is a step in the right direction, SR Telecom believes that additional spectrum is needed to provide FWA voice telephony or advanced services. Frequency Division Duplex

("FDD"), utilizing either TDMA or code division multiple access ("CDMA") in paired spectrum is necessary to provide rapid deployment of two-way service. Time division duplex ("TDD"), while feasible in this band, is not readily available technology and would require a relatively long lead time for product development. Equipment on the market today capable of providing the desired services uses FDD, which generally requires a separation of between 50 MHz and 100 MHz between the transmit and receive frequencies, with the wider separation generally required for higher bandwidth services. (Notice at ¶ 9). Reducing the separation would increase the cost of filtering and therefore impact the economics of serving wireless subscribers. The 50 MHz of spectrum the Commission is allocating in this proceeding, if split and paired, would allow only 25 MHz of separation which would render it unuseable for FDD systems. Higher equipment costs resulting from either the need for more sophisticated spectrum division techniques or increased research and development costs will inevitably thwart the ability of FWA providers to compete with traditional services.

12. To allow the immediate deployment of already existing technology, SR Telecom urges the Commission to allocate an additional 50 MHz of spectrum in the 3400-3700 MHz band, at least 100 MHz removed from the 3650-3700 MHz band in order to accommodate the technology of existing manufacturers, for pairing with the 50 MHz of spectrum proposed in the instant proceeding. A limited allocation for fixed wireless access will meet with limited success, as was the case with the BETRS, where insufficient contiguous spectrum is available to provide adequate and competitive local exchange services. This spectrum is largely unused today because no equipment has been developed for a commercial market with limited potential.

C. ITU Standards Are Appropriate, but Technical Standards Should Be Left to the Market

13. The Commission is in a position to take advantage of existing international allocations and standards to bring FWA equipment and service rapidly to the U.S. market. The existing international equipment market means that expensive and time consuming research and development has already been completed. Furthermore, since both Canada and Mexico have already allocated this spectrum for FWA, there would be little difficulty in coordinating service in border regions. Moreover, ITU operating standards and out-of-band emissions have been in place for many years, and the Commission should adopt them, which will allow use of existing equipment and facilitate rapid deployment of FWA systems.

14. The standard suggested by the Commission for service area border interference of 54 dBuV/m is appropriate, and should be adopted. (Notice at ¶ 10, n. 28). In addition, the Commission should adopt standards for protection of FSS in the band for grandfathered systems that do not inhibit implementation of FWA systems. For example, if FWA licensees are required to protect sensitive FSS receivers, which may operate just above the noise floor, that would significantly restrict the development of FWA systems near existing FSS earth stations. However, technical equipment specifications should be left to the market. There are several equipment manufacturers that have developed different technologies for their equipment, and the Commission should remain neutral as to which technology is accepted by the market. By doing

so, market forces will drive innovation and keep prices down, thus encouraging rapid development of FWA service.

15. As already suggested, in order to promote the development of FWA systems, spectrum allocations should consider established standards that have promoted this band, including those of ETSI, CITEL and developments within the ITU process. While it is recognized that existing users in the 3400-3700 MHz band have a legitimate requirement for spectrum and would have to be accommodated, harmonizing domestic spectrum allocations with international recommendations promotes free trade and facilitates coordination of systems at international borders. Further, equipment is already being marketed internationally in this band and migrating technology to other bands or, worse, developing technology for a specific unpaired band, is inefficient both from a manufacturing perspective, as well as a spectrum management perspective.

D. Spectrum Should Be Auctioned in Accordance with Established Rules

16. SR Telecom agrees with the Commission that this spectrum should be subject to competitive bidding. (Notice at ¶ 7). The recent LMDS and WCS auctions provide an excellent model for FWA spectrum, and those rules could be modified for FWA. If the Commission decides to allocate an additional 50 MHz of paired spectrum, then two 25 MHz paired-blocks (100 MHz total spectrum) should be established in each market area for auction. Having more than one block of spectrum per region increases competition among both equipment

manufacturers and service providers and facilitates faster FWA deployment, since each licensee will want to construct systems in a timely fashion in order to recover the cost of a license and prevent first mover advantage by their competitor.

17. SR Telecom believes Metropolitan Statistical Areas ("MSAs") and Rural Service Areas ("RSAs") are the most appropriate markets sizes for FWA. There are significant differences between rural and metropolitan markets: rural markets would be targeted by both incumbent providers (seeking to meet their universal service requirements) and by competitive service providers (seeking new customers), whereas urban markets would be targeted primarily by competitive service providers, since ILECs already have full market penetration in these areas. Use of MSAs and RSAs would allow auction participants to obtain licenses for the specific type of customer they intend to reach.

III. CONCLUSION

18. SR Telecom believes the Commission's proposal to allocate the 3650-3700 MHz band to the fixed service goes a long way towards fostering competition. The Commission must take every step to create an environment where viable fixed wireless access equipment and service providers can compete, particularly with respect to allocating sufficient and adequate spectrum.

WHEREFORE, THE PREMISES CONSIDERED, SR Telecom Inc. requests the Commission to act in a manner consistent with the views expressed herein.

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Respectfully submitted,

SR TELECOM INC.

Mike Morris
Vice President Corporate Affairs
8150 Transcanada Highway
St. Laurent, Quebec
Canada H4S 1M5

Dan Sonntag
Regional Marketing Director
300 South Pine Island Road
Suite 308
Plantation, FL 33324

By:



Wayne V. Black

Peter Saari
Keller and Heckman LLP
1001 G Street
Suite 500 West
Washington, D.C. 20001
(202) 434-4100

Its Attorneys

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